Montana Department of Environmental Quality
Permitting and Compliance Division
Waste and Underground Tank Management Bureau
1520 East 6th Avenue
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Final Environmental Assessment
CHS Laurel Refinery
Permit Reissuance

Montana Hazardous Waste Permit Number: MTHWP-14-02

Issued to: CHS Laurel Refinery
803 Highway 212 S.
Laurel, Montana 59044-0909

Legal Description: Section 15 and 16, Township 2 South, Range 24 East, Yellowstone County, Montana

Issued by: Hazardous Waste Program
Waste and Underground Tank Management Bureau
Permitting and Compliance Division
Montana Department of Environmental Quality

Purpose of the Environmental Assessment
The Montana Department of Environmental Quality (DEQ) is required under the Montana Environmental Policy Act (MEPA) to conduct an environmental assessment (EA) on the proposed permit action described in this document. An EA details all reasonable alternatives to DEQ's permitting action; and outlines potential impacts to the human environment resulting from DEQ's action and reasonable alternatives to that action.

Based on the impact analysis and professional judgment, DEQ makes a decision on the proposed permit action and summarizes the decision in the EA. If the decision significantly impacts the human environment, a more detailed environmental review, called an environmental impact statement, must be conducted by DEQ.

Public Comment Period
The public was provided 45 days to review and comment on the draft EA and the proposed permit reissuance. The comment period extended from July 14 to August 27, 2014. No comments on the EA or draft permit were submitted to DEQ.

Montana Hazardous Waste Regulations
Rules administering hazardous waste management in Montana are set forth in the Administrative Rules of Montana (ARM), Title 17, Chapter 53, sub-Chapters 1 through 12. Federal regulations for hazardous waste management are set forth in Title 40 of the Code of Federal Regulations (CFR), Parts 124 and 260 through 279, and are incorporated by reference in ARM. For ease of reading this document, when federal regulations under Title 40 of the CFR have been incorporated by reference into ARM, only the federal citation is used.

Description of Project
DEQ is proposing to reissue a hazardous waste permit to CHS Inc. (CHS) for the Laurel Refinery, in Laurel, Montana. The proposed reissued permit (MTHWP-14-02) contains requirements for closure and post-closure care of a closed land treatment unit and continued implementation of cleanup of contaminated areas present throughout the facility. Hazardous waste permits issued to facilities in Montana are in effect for ten years and must be re-issued or terminated at the end of that period. This proposed permit would be the third hazardous waste permit issued to the Laurel Refinery.

The Laurel Refinery is south of the city of Laurel, Montana and has been in operation since the 1930s. Previous owners include the Independent Refining Company, Farmers Union Central Exchange Inc. (Cenex Inc.), and, currently, CHS Inc. (originally named Cenex Harvest States Cooperatives). Refinery operations are conducted on approximately100 of 350 acres owned by CHS, all of which are zoned for heavy industrial use. The remaining acreage consists of administrative offices and green space. Adjacent property use is residential, light industrial, and agricultural. The Yellowstone River borders a portion of the southern property boundary.

Two land treatment units were used to treat refinery wastes from 1965 to 1988. The State of Montana issued a hazardous waste permit to CHS for closure and post-closure maintenance of the units in 1991. The permit was reissued in 2002. Permit requirements for the two land treatment units included operation and maintenance, closure, post-closure care, and groundwater monitoring. CHS closed one land treatment unit in 2006 to standards which do not require post-closure care. The second land treatment unit was designated as a Corrective Action Management Unit in the 2002 permit, which allowed land treatment of remediation wastes generated as a result of facility-wide cleanup activities. CHS, to date, has not used the land treatment unit to treat remediation waste. A barrier wall and recovery wells were installed at the downgradient edge of the second land treatment unit to address groundwater contamination.

Facilities that have been issued a hazardous waste permit are also required to cleanup releases of hazardous wastes and hazardous constituents to environmental media (i.e. soil, groundwater). CHS must investigate and remediate contaminated media found at the refinery, as well as any contamination that has migrated off-site. Results of remedial investigations conducted by CHS indicate that volatile organic compounds, polycyclic aromatic hydrocarbons, and metals are the main constituents of concern in soils and groundwater.

CHS has implemented interim corrective measures to address contaminated groundwater within the refinery and at the refinery property boundary to prevent off-site migration. Interim measures include oil skimming, groundwater recovery and treatment, air sparging, and chemical oxidation.

DEQ is proposing a remedy for facility-wide cleanup and has described the remedy in a Statement of Basis. The public may comment on the Statement of Basis and an associated environmental assessment during the same public comment period as the permit reissuance. Information on the remedy selection process and public comment can be found in the public participation section of this environmental assessment.

Montana hazardous waste permits are in effect for 10 years and may be reissued at the end of that time. In February 2012, CHS submitted an application for a second reissuance of its hazardous waste permit. The application was submitted within the regulatory timeframe and, after review, deemed complete by DEQ.

The proposed reissuance will require closure and post-closure care of the inactive land treatment unit and continued remedial action to address contaminate environmental media.

Objectives of Proposed DEQ Action

DEQ is charged with administering the provisions of the Administrative Rules of Montana (ARM). The objective of the proposed action is to comply with ARM provisions pertaining to hazardous waste permits and facility-wide remediation of contaminated media. DEQ must ensure conditions of a hazardous waste permit are in accordance with ARM and the portions of 40 CFR Part C which are incorporated by reference in ARM. In addition, conditions of the permit must ensure appropriate and compliant management of hazardous waste, as well as implementation of facility-wide remedial activities that are protective of human health and the environment.

Alternatives Considered

Alternative 1: No Action

The No Action alternative provides a baseline for analyzing other alternatives. Under the No Action alternative, DEQ would deny the CHS permit application and would not issue MTHWP-14-02.

The Montana Hazardous Waste Act, under 75-10-406(1) Montana Code Annotated (MCA), mandates a person may not construct or operate a hazardous waste management facility without first obtaining a permit from DEQ. CHS has conducted and continues to conduct activities on the land treatment unit that fall under the requirements of 75-10-406(1) MCA.

As stated in 75-10-406(7) MCA, DEQ must require corrective action for all releases of hazardous waste or constituents at a facility permitted under 75-10-406 MCA, including corrective action for releases that extend beyond the facility boundaries. In addition, 40 CFR 264.101, as incorporated by reference in ARM 17.53.1201, requires that a facility with an operating or post-closure hazardous waste permit must address releases from solid waste management units present at that facility. CHS has completed an extensive remedial

investigation of the facility, including sampling, groundwater monitoring, human health and ecological risk assessments, and corrective measures feasibility study. CHS has also implemented interim corrective measures to address groundwater contamination on-site and to prevent migration of contamination off-site. Results of this work indicate cleanup of contamination is required to protect human health and ecological receptors. DEQ is in the process of selecting a corrective measures remedy which will address the contamination.

The No Action alternative would not comply with the requirements of the Montana Hazardous Waste Act which requires a permit for the activities CHS is conducting on the land treatment unit. The No Action alternative would also not comply with the requirement for facility-wide remediation cited in 75-10-406(7) MCA and 40 CFR 264.101. In addition, CHS submitted a timely permit application for reissuance of its hazardous waste permit and has been in substantial compliance with Montana hazardous waste regulations throughout the 23-year duration of its two previous permits. CHS is in compliance with regulations pertaining to a permit application and to general hazardous waste management and disposal; therefore, there is no regulatory reason to deny the CHS permit application. Based on the above analysis, DEQ has determined the No Action alternative is not reasonable and the alternative is not considered further in this EA.

Alternative 2: Proposed action - Reissuance of the hazardous waste permit
Under this alternative, DEQ would reissue a hazardous waste permit to CHS, after considering all comments received during the public comment period. Under this alternative, CHS would continue closure and then post-closure maintenance of the inactive land treatment unit, and would be required to continue implementation and completion of facility-wide remediation.

CHS has submitted a timely hazardous waste permit application requesting reissuance of the permit, which DEQ determined to be adequate and complete. CHS has been in substantial compliance with hazardous waste permit conditions and hazardous waste regulations with during the 23-year duration of its previous two permits.

Stipulations and Controls
CHS must meet all requirements of the permit and any applicable requirements of the Montana Hazardous Waste Act. The CHS hazardous waste permit requires testing of soils and groundwater at the inactive land treatment unit at specified times throughout the closure and post-closure care periods. For facility-wide corrective action, the permit requires submission of work plans and progress reports to DEQ for all corrective action activities. Work plans must include engineering requirements for treatment technologies and monitoring well installation, safety procedures, sampling procedures, and quality assurance for sampling and analysis. Progress reports include evaluation of progress towards meeting cleanup standards, as well as the efficacy of any remedial action at the facility. All work plans and reports will be subject to DEQ's review and approval.

Non-compliance with permit conditions and/or hazardous waste regulations is subject to enforcement by DEQ.

Analysis of Regulatory Impacts on Private Property Rights
A *Private Property Assessment Act Checklist* was completed for the draft permit and is on file at the DEQ Helena office. DEQ determined that no taking or damaging implications requiring a further impact assessment exist.

Summary of Impacts
Potential human environmental impacts from implementation of Alternative 2 are rated in Tables 1 and 2. The summary was completed for Alternative 2 only; Alternative 1 was not considered to be a reasonable alternative. The human environment includes those attributes, such as biological, physical, social, economic, cultural, and aesthetic factors, that interrelate to form the environment. Impacts may be adverse, beneficial, or both. The following criteria are used to rate the impacts:

- The severity, duration, geographic extent, and frequency of occurrence;
- The probability the impact will occur if the proposed action occurs;
- Growth-inducing or growth-inhibiting aspects of the impact;
- The quantity and quality of each environmental resource or value effected;
- The importance to the state and society of each environmental resource or value effected;
- Any precedent set as a result of an impact from the proposed action that would commit DEQ to future actions with significant impacts or a decision in principle about such future actions; and
- Potential conflict with local, state, or federal laws, requirements, or formal plans.

The following are definitions for major, moderate, minor, none, and unknown impacts on the human environment:

Major: A significant change from the present conditions of the human environment. Major impacts are serious enough to warrant preparing an environmental impact statement (EIS).

Moderate: Not a major or minor change from the present condition of the human environment. A single moderate impact may not warrant preparing an EIS; however, when considered with other impacts, an EIS may be required.

Minor: A slight change from the present condition of the human environment. Minor impacts are not serious enough to warrant preparing an EIS.

None: No change from the present conditions of the human environment.

Unknown: An EIS must be conducted to determine the effects on the human environment if impacts are unknown.

Table 1. Potential Impacts on Physical and Biological Environment

▪ Alternative 2 – Reissuance of the CHS Hazardous Waste Permit							
Resources		Major	Moderate	Minor	None	Unknown	Discussion Attached
A.	Air Quality			▪			✶
B.	Water Quality, Quantity, and Distribution			▪			✶
C.	Geology and Soil Quality, Stability, and Moisture			▪			✶
D.	Historical and Archaeological Sites				▪		
E.	Aesthetics				▪		
F.	Terrestrial and Aquatic Life and Habitats				▪		
G.	Vegetation Cover, Quantity, and Quality				▪		
H.	Unique, Endangered, Fragile, or Limited Environmental Resources				▪		
I.	Demands on Environmental Resource of Water, Air, and Energy				▪		
J.	Cumulative and Secondary Impacts				▪		

Description of Potential Impacts on Physical and Biological Environment

1. *Resource A - Air Quality:* Excavation of remediation wastes during facility-wide corrective action may cause dust emissions. DEQ will require that work plans include air quality monitoring and steps to correct impacts, as necessary. Therefore, impacts to air quality are anticipated to be minor.

2. *Resource B - Water Quality, Quantity, and Distribution:* Groundwater has been impacted by historical industrial practices at the refinery. Permit conditions include requirements for subsurface soil and groundwater sampling, and maintenance of groundwater remediation technologies. Should soil and/or groundwater monitoring indicate migration of constituents, CHS must implement corrective measures to remediate the contamination and prevent further migration. Impacts to water quality, quantity, and distribution would be minor.

3. *Resource C - Geology and Soil Quality, Stability, and Moisture:* Surface and subsurface soil has been impacted by historical industrial practices at the refinery. Permit conditions include requirements for remediation of impacted soils where accessible, land use restrictions for soils which are not accessible and best management practices to ensure worker protection from exposure to contaminated soils. Impacts to geology and soil quality, stability, and moisture would be minor. Remediation of contaminated soils is expected to have a positive impact on soil quality.

Table 2. Potential Impacts on Social, Economic, and Cultural Environment

▪ Alternative 2 – Reissuance of the CHS Hazardous Waste Permit							
Resources		Major	Moderate	Minor	None	Unknown	Discussion Attached
A.	Social Structures and Mores				▪		
B.	Cultural Uniqueness and Diversity				▪		
C.	Local and State Tax Base and Tax Revenue				▪		
D.	Agricultural or Industrial Production				▪		
E.	Human Health				▪		
F.	Access to and Quality of Recreational and Wilderness Activities				▪		
G.	Quantity and Distribution of Employment				▪		
H.	Distribution of Population				▪		
I.	Demands for Governmental Services			▪			✶
J.	Industrial and Commercial Activity			▪			✶
K.	Locally Adopted Environmental Plans and Goals			▪			✶
L.	Cumulative and Secondary Impacts			▪			✶

Description of Potential Impacts on Social, Economic, and Cultural Environment

1. *Resource I - Demands for Governmental Services:* Conditions in the permit would require submittal of work plans, reports and completion certification documentation to the DEQ Hazardous Waste Program. These submittals would be reviewed by program staff. Reviews would result in resources spent on staff time for review, correspondence, and communication with CHS staff and CHS environmental consultants. Annual inspections of the land treatment unit by staff are required by a Performance Partnership Agreement between EPA and DEQ. The inspections would result in resources spent on staff time for inspections, report writing, and enforcement activities, if necessary. In addition, staff would conduct inspections during facility-wide corrective action activities. Therefore, a minor impact to government services is anticipated.

2. *Resource J - Industrial and Commercial Activity:* CHS hires environmental consulting firms to implement cleanup remedies, media sampling, technical evaluations, and work plan and report development for closure and post-closure of the land treatment unit and facility-wide corrective action. Samples for analytical evaluation would continue to be sent to an external

analytical laboratory for analysis. Impacts on industrial and commercial activity would remain at the same level as those impacts generated by the current permit.

3. *Resource K - Locally Adopted Environmental Plans and Goals:* A permit would require that CHS implement institutional measures to control or prevent present and future on-site use and access to contaminated soil and groundwater. CHS would be required by the permit to develop a land use control plan that would implement institutional controls to prohibit current and future use of ground and surface water, and restrict land use of contaminated areas on the CHS facility.

   Currently, the area encompassing the CHS Laurel Refinery is zoned as heavy industrial through the authority of the City of Laurel Planning Board. Permit-required land use controls, including deed restrictions, survey plat notations, and restrictive covenants would restrict land use to industrial purposes for the land treatment unit and other areas in the refinery that have been cleaned up to risk-based levels protective of industrial workers. Deed restrictions would be required to "run with the land" to ensure any restrictions are forever binding against the owner and successors in interest. Land use controls required by the permit would provide additional long-term protection to that provided by the local zoning authority. Implementation of land use controls is expected to have minor impacts on local environmental plans and goals.

4. *Resource L - Cumulative and Secondary Impacts:* Remediation of soil and groundwater to industrial risk-based concentration levels would allow reuse of the CHS property. This would have a beneficial cumulative and secondary impact. Land use controls required by the permit would provide additional long-term protection to that provided by the local zoning authority. Long-term restrictions on land use for industrial purposes as required by the permit would have minor cumulative and secondary impacts.

Individuals or Groups Contributing to EA
Montana Department of Environmental Quality

Draft EA Prepared
Rebecca Holmes
July 9, 2014

Final EA Prepared
Rebecca Holmes
September 9, 2014

Recommendation

Based on the EA analysis, impacts of Alternative 2 on the Physical and Biological Environment, and Social, Economic, and Cultural Environment are minor. Based on the EA analysis, regulatory requirements, and professional judgment, DEQ recommends Alternative 2, reissuance of a hazardous waste permit to CHS Inc.

The EA analysis demonstrates this state action will not be a major action significantly affecting the quality of the human environment. Therefore, the EA is an adequate level of environmental review and an EIS is not required.